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Scientific and Technical Information Center

SEARCH REQUEST FORM

Date: 12/8/99 Requester's Full Name: P. Spivack Examiner #: 70400
Art Unit: 1614 Phone (308) 4703 Serial Number: 09/281892
Results Format Preferred (circle): PAPER DISK E-MAIL

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To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Viral Treatment

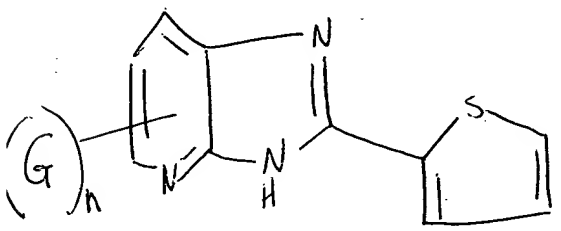
Inventors (please provide full names): James Berger Camden, Joseph Gardner, David Stanton

Earliest Priority Date: 3/31/99

Search Topic:
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known.

For Sequence Searches Only ***Please include all pertinent information (parent, grandchild, divisional, or issued patent numbers) along with the appropriate serial number.***

Please search methods of treating viral infections such as hepatitis (C), herpes simplex, HIV, Kaposi's sarcoma, and fungal infections comprising administering



Point of Contact:
Mary Hale
Technical Info. Specialist
CM1 12D16 Tel: 308-4258

RECEIVED
DEC - 8 1999
BIOTECH/CHEM DIVISION (STIC)

n= 1-4

G= H, alkyl, halo, oxo, chloro, hydroxy, -SH, alkoxy

Thanks

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STAFF USE ONLY	**Type of Search**	**Vendors and Cost**
Searcher:	____ NA Sequence (#)	____ STN ____ Dialog
Searcher Phone #:	____ AA Sequence (#)	____ Questel/Orbit ____ Dr.Link
Searcher Location:	____ Structure (#)	____ Lexis/Nexis ____ Westlaw
Date Searcher Picked Up:	____ Bibliographic	____ WWW/Internet
Date Completed:	____ Litigation	____ In-house sequence systems (list)
Searcher Prep & Review Time:	____ Fulltext	____ Other (specify)
Online Time:	____ Other	

Dpwack
281892

FILE 'REGISTRY' ENTERED AT 14:44:10 ON 16 DEC 1999
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STRUCTURE FILE UPDATES: 15 DEC 99 HIGHEST RN 250790-36-4
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TSCA INFORMATION NOW CURRENT THROUGH JANUARY 13, 1999

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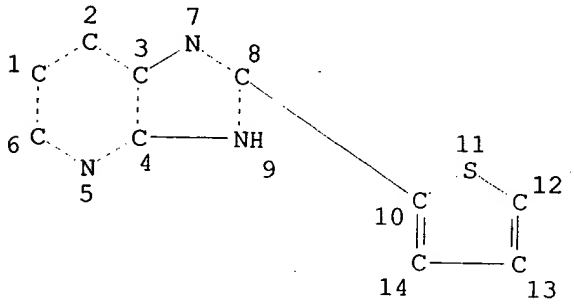
=> d l3 que stat;d l6 que stat;d 1-9 ide cbib abs

L1 STR



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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
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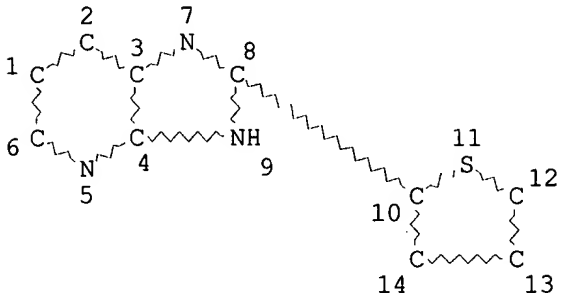
SEARCH TIME: 00.00.01

L4 STR



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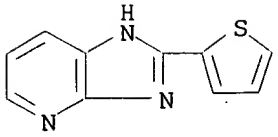
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE
L6 9 SEA FILE=REGISTRY SSS FUL L4

100.0% PROCESSED 127 ITERATIONS 9 ANSWERS
SEARCH TIME: 00.00.01

L6 ANSWER 1 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 120800-29-5 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-(2-thienyl)-, monohydrochloride (9CI) (CA INDEX NAME)
MF C10 H7 N3 S . Cl H
SR CA
LC STN Files: CA, CAPLUS
CRN (1204-64-4)



● HCl

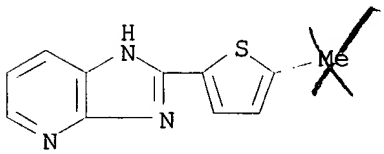
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 110:231657 Preparation of heterocyclyl imidazopyridines and -purines as cardiovascular agents. Hauel, Norbert; Heider, Joachim; Diederen, Willi; Van Meel, Jacques (Thomae, Dr. Karl, G.m.b.H., Fed. Rep. Ger.). Ger. Offen. DE 3722992 A1 19890119, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1987-3722992 19870711.

GI For diagram(s), see printed CA Issue.

AB The title compds. [I; AB = atoms to complete a pyridine or pyrimidine ring; R = (un)substituted C-attached heterocyclyl] were prepd. 3,4-Diaminopyridine was refluxed .apprx.3.5 h with 2,6-dimethoxynicotinic acid in POCl3 to give 10% pyridylimidazopyridine II which gave a 68% increase in coronary contractility with a 25 mmHg lowering of blood pressure in cats receiving 1 mg/kg i.v.. Tablets were prepd. each contg. II 100.0, lactose 50.0, polyvinylpyrrolidone 5.0, CM-cellulose 19.0, and Mg stearate 1.0 mg.

L6 ANSWER 2 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 120800-19-3 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-(5-methyl-2-thienyl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H9 N3 S
SR CA
LC STN Files: CA, CAPLUS



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 110:231657 Preparation of heterocyclyl imidazopyridines and -purines as cardiovascular agents. Hauel, Norbert; Heider, Joachim; Diederen, Willi; Van Meel, Jacques (Thomae, Dr. Karl, G.m.b.H., Fed. Rep. Ger.). Ger. Offen. DE 3722992 A1 19890119, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1987-3722992 19870711.

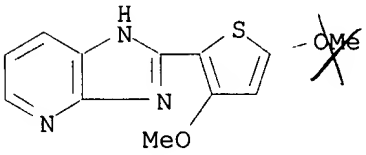
GI For diagram(s), see printed CA Issue.

AB The title compds. [I; AB = atoms to complete a pyridine or pyrimidine ring; R = (un)substituted C-attached heterocyclyl] were prepd. 3,4-Diaminopyridine was refluxed .apprx.3.5 h with 2,6-dimethoxynicotinic acid in POCl3 to give 10% pyridylimidazopyridine II which gave a 68% increase in coronary contractility with a 25 mmHg lowering of blood pressure in cats receiving 1 mg/kg i.v.. Tablets were prepd. each contg.

Cl 20-27

II 100.0, lactose 50.0, polyvinylpyrrolidone 5.0, CM-cellulose 19.0, and Mg stearate 1.0 mg.

L6 ANSWER 3 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-94-4 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-(3,5-dimethoxy-2-thienyl)-, hydrochloride (9CI) (CA INDEX NAME)
MF C12 H11 N3 O2 S . x Cl H
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
CRN (99479-92-2)



● x HCl

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

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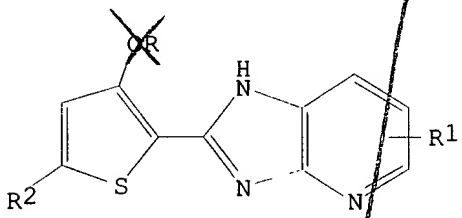

I

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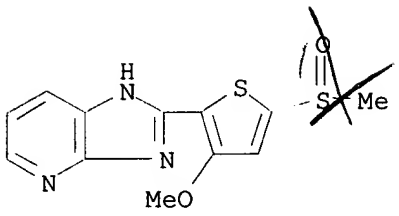
L6 ANSWER 4 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-93-3 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-[3-methoxy-5-(methylsulfinyl)-2-thienyl]-, monohydrochloride (9CI) (CA INDEX NAME)

MF C12 H11 N3 O2 S2 . Cl H
SR CA
LC STN Files: CA, CAPLUS, TOXLIT, USPATFULL
CRN (99479-91-1)



● HCl

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

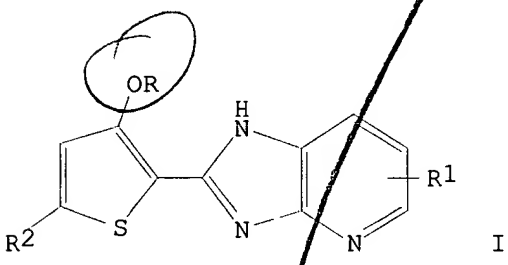
REFERENCE 1: 120:95180 Cardiotonic actions of selective phosphodiesterase inhibitors in rat isolated ventricular cardiomyocytes. Kelso, Elizabeth J.; McDermott, Barbara J.; Silke, Bernard (Dep. Ther. Pharmacol., Queen's Univ. Belfast, Belfast, BT7 9BL, UK). Br. J. Pharmacol., 110(4), 1387-94 (English) 1993. CODEN: BJPCBM. ISSN: 0007-1188.

AB The contractile effects of the novel cardiotonic agent HN-10200 (2-[3-methoxy-5-methylsulphinyl-2-thienyl]-1H-imidazo-[4,5]-pyridine hydrochloride), were examd. and comparisons made with the responses obtained to a structurally similar compd., sulmazole, and to a no. of other compds. which are known to inhibit phosphodiesterase (PDE) isoenzymes with differing selectivities; namely, enoximone (PDE III inhibitor), Ro 20-1724 (PDE IV inhibitor) and 3-isobutyl-1-methylxanthine (nonselective PDE inhibitor). Contractile function, as measured by mech. shortening, and biochem. systems involving cAMP were investigated in ventricular cardiomyocytes isolated from adult Sprague-Dawley rats (200-250 g). HN-10200 exerted a concn.-dependent (10-8 M - 10-4 M) pos. contractile effect, which was independent of .alpha.- or .beta.-adrenoceptor, or histamine receptor stimulation. The efficacies of the contractile responses to the PDE inhibitors were of the order: HN-10200 > IBMX > sulmazole > enoximone and max. stimulations, which were obtained at concns. of 10-4 M, were 54 .+-. 4%, 41 .+-. 7%, 38 .+-. 7% and 26 .+-. 5% (mean .+-. s.e.) greater than basal levels, resp. (n = 6); the basal value of contractile amplitude (dL), in the absence of PDE inhibitors was 7.39 .+-. 0.18% (mean .+-. s.e.). Ro 20-1724 did not have any effect on contractile activity. Due to low basal levels of cyclic nucleotides in isolated cells, accumulation of cAMP due to the presence of the PDE inhibitors was detected only when the levels of cyclic nucleotide were enhanced with forskolin (10 .mu.M). The PDE inhibitors increased levels of cAMP only at concns. > 10-4 M. HN-10200 and sulmazole had similar concn.-dependent profiles for the accumulation of cAMP; their potencies were lower than that of IBMX (concns. of forskolin required to increase cAMP by 4 pmol mg-1 protein, in the presence of max. concns. of the PDE inhibitors, were 13 .+-. 3 .mu.M, 14 .+-. 3 .mu.M and 3 .+-. 0.6 .mu.M [mean .+-. s.e.], resp.). These results indicate that a similar mechanism, probably through a weak inhibition of the cAMP-specific PDE isoenzymes, is responsible for the increase in levels of cAMP by HN-10200

and sulmazole. However, cAMP is only partially responsible for the pos. contractile effect of HN-10200 and, similarly, sulmazole and IBMX. The lack of apparent increase in levels of cAMP by enoximone, highlights its degree of selectivity for the PDE III isoenzyme, such that the PDE IV isoform is still present in sufficient quantity to degrade cAMP within the cell. On the other hand, the potent action of Ro 20-1724 on accumulation of cAMP, in addn. to the lack of effect on contractile function, is in agreement with the selectivity of this compd. for the PDE IV isoenzyme and compartmentalization of cAMP in rat isolated ventricular cardiomyocytes.

REFERENCE 2: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

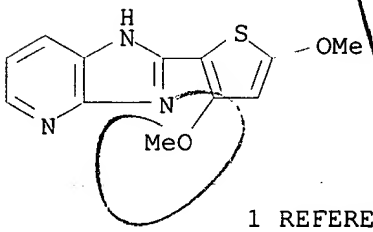
GI



I

AB The title compds. (I: R = Me, Et; R1 = H, Me; R2 = MeS, MeS(O), MeO) were prepd. Thus, Me 3-hydroxy-5-methoxy-2-thiophenecarboxylate was methylated with Me2SO4 to give 99.8% Me 3,5-dimethoxy-2-thiophenecarboxylate. This was sapond. (45.4%) and cyclocondensed with 2,3-pyridinediamine to give 29% I (R = Me, R1 = H, R2 = MeO). In rats representative I at 20 mg/kg/h i.v. increased heart frequency 39.2% and the heart contractility parameter 50% with slight or no redn. in arterial blood pressure.

L6 ANSWER 5 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-92-2 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-(3,5-dimethoxy-2-thienyl)- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C12 H11 N3 O2 S
CI COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

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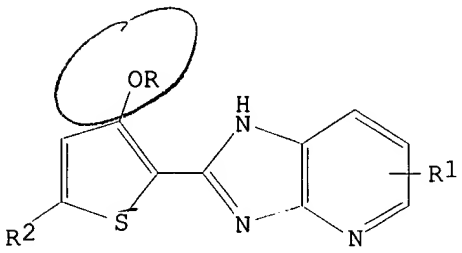

I

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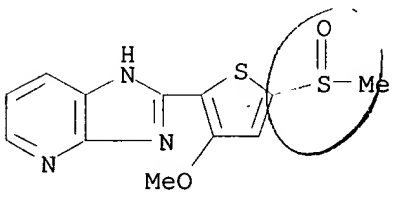
L6 ANSWER 6 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-91-1 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-[3-methoxy-5-(methylsulfinyl)-2-thienyl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C12 H11 N3 O2 S2
CI COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP

1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

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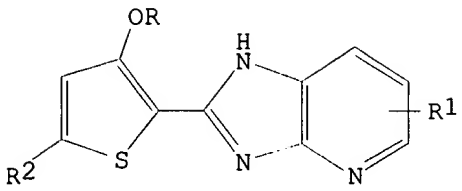

I

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L6 ANSWER 7 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-90-0 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-[3-methoxy-5-(methylthio)-2-thienyl]-, hydrochloride (9CI) (CA INDEX NAME)
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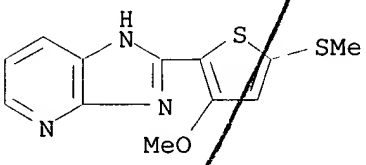
LC STN Files: CA, CAPLUS, USPATFULL
CRN (99479-89-7)

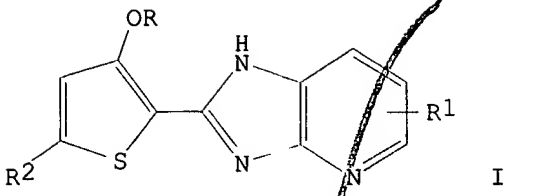


x HCl

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

GI



I

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L6 ANSWER 8 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 99479-89-7 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-[3-methoxy-5-(methylthio)-2-thienyl]- (9CI) (CA INDEX NAME)
FS 3D CONCORD
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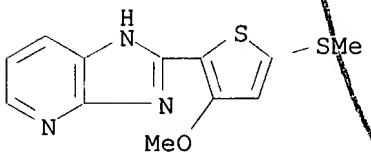
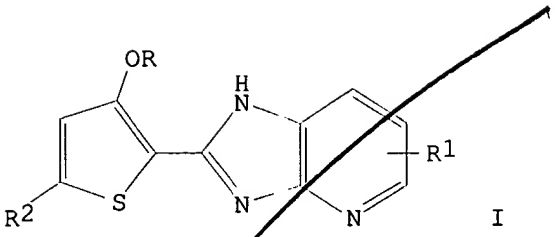
CI COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 104:19578 2-(2-Thienyl)imidazo[4,5-b]pyridine derivatives and their pharmaceutically compatible acid addition salts. Binder, Dieter; Rovenszky, Franz (Laevosan G.m.b.H. und Co. K.-G., Austria). Eur. Pat. Appl. EP 148742 A1 19850717, 14 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (German). CODEN: EPXXDW. APPLICATION: EP 1984-890212 19841109. PRIORITY: AT 1983-3999 19831114.

GI



I

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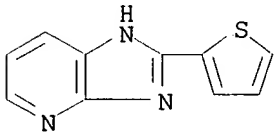
L6 ANSWER 9 OF 9 REGISTRY COPYRIGHT 1999 ACS
RN 1204-64-4 REGISTRY
CN 1H-Imidazo[4,5-b]pyridine, 2-(2-thienyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C10 H7 N3 S
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMINFORMRX
(*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 120:191612 An expedient route to 1H-benzimidazoles and 1H-imidazopyridines. Vanden Eynde, Jean Jacques; Mayence, Annie; Maquestiau, Andre; Anders, Ernst (Org. Chem. Lab., Univ. Mons-Hainaut, Mons, B-7000, Belg.). Bull. Soc. Chim. Belg., 102(5), 357-64 (English) 1993. CODEN: BSCBAG. ISSN: 0037-9646.

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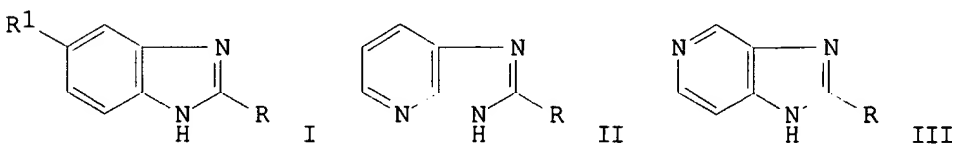

I II III

AB 1H-Benzimidazoles I (R = Ph, substituted Ph, alkyl, 2-furyl, 2-thienyl; R1
= H, Cl, NO2), 1H-imidazo[4,5-b]pyridines II (R = Ph, substituted Ph, 2-thienyl), and 1H-imidazo[4,5-c]pyridines III (R = 4-MeC6H4, 4-FC6H4) can
be synthesized readily by reaction of unisolated N-(1-chloroalkyl)pyridinium chlorides with 1,2-benzenediamines, 2,3-pyridinediamine, and 3,4-pyridinediamine resp.

REFERENCE 2: 108:112331 Synthesis of 2-aryl-substituted imidazo[4,5-b]pyridines and imidazo[4,5-c]pyridines. Yutilov, Yu. M.; Shcherbina, L. I. (Inst. Fiz.-Org. Khim. Uglekhim., Donetsk, 340114, USSR). Khim. Geterotsikl. Soedin. (5), 639-45 (Russian) 1987. CODEN: KGSSAQ. ISSN: 0453-8234.

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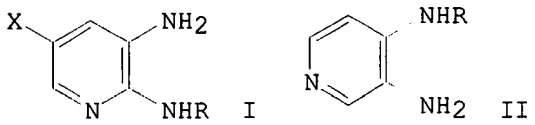

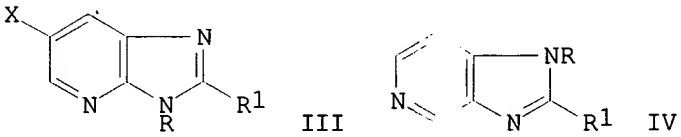

AB Heating diaminopyridines I (R = H, Me; X = H, Cl, Br) or II (R = H, Me) with R1CHO [R1 = Ph, 4-ClC6H4, 4-FC6H4, 4-HOC6H4, 4-MeOC6H4, 4-Me2NC6H4, 2,5-(MeO)2C6H3, 2-thienyl, 3-pyridyl, etc.] and S gave 70-93% title compds. III (same R, R1, X) or IV (same R, R1). Intramol. cyclization of I (X = H, R = CH2Ph) or II (R = CH2Ph) by heating with S gave 48% III (X = H, R = H, R1 = Ph) or 60% IV (R = H, R1 = Ph), resp.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	270.18	1274.63

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.59	-53.33

FILE 'CAOLD' ENTERED AT 14:46:30 ON 16 DEC 1999

FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, and patent

assignees are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

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L7 ANSWER 1 OF 1 COPYRIGHT 1999 ACS
AN CA62:4022b CAOLD
TI prepn. of 2-arylimidazo [4.5-b]pyridines
AU Garmaise, David L.; Komlossy, J.
IT 942-25-6 945-56-2 945-78-8 951-73-5 952-12-5 952-13-6
952-14-7 955-41-9 956-15-0 956-16-1 956-17-2 976-30-7
1016-93-9 1019-81-4 1027-04-9 1142-55-8 **1204-64-4**

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